



# Software “Mega Order”



***Leanna Rierson***

***September, 2002***

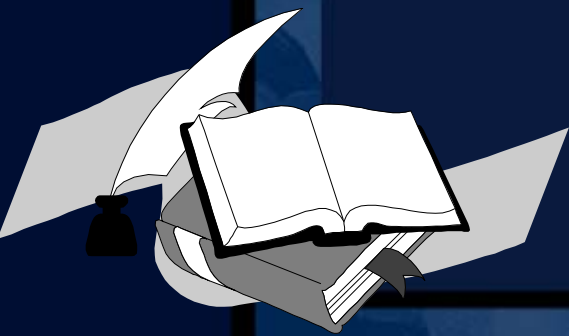
***E-mail: [Leanna.Rierson@faa.gov](mailto:Leanna.Rierson@faa.gov)***

***Long Beach DER Conference***



# Presentation Overview

- ✦ **FAA Software Notices**
- ✦ **FAA Draft Software Order**
  - **Status/Schedule**
  - **Document Overview**
  - **Section Highlights**
- ✦ **Summary**





# FAA Software Notices

- ✦ 8110.77 -> 8110.95 Field Loadable Software (FLS)
- ✦ 8110.78 -> 8110.89 Legacy Software
- ✦ 8110.79 -> 8110.93 PMA of FLS
- ✦ 8110.81 -> 8110.90 Software Review Process
- ✦ 8110.82 -> 8110.92 Previously Developed Software
- ✦ 8110.83 -> 8110.91 Software Tool Qualification
- ✦ 8110.84 -> 8110.94 User Modifiable Software
- ✦ 8110.85 Software Change Impact Analysis
- ✦ 8110.86 Software Conformity
- ✦ 8110.87 Level of FAA Involvement
- ✦ 8110.97 Reused Software Life Cycle Data



# Software Order Status & Highlights



# Software Mega Order Status

- ✦ Title: “Software Approval Guidelines”
- ✦ Coordinate within FAA – 2/02
- ✦ Disposition FAA comments - 4/02
- ✦ Coordinate with FAA Legal (draft 2c) - 8/02
- ✦ Publish in Federal Register - 8/02
- ✦ Receive Public Comments via Federal Register – 10/02
- ✦ Complete Order - 2/03
- ✦ Deliver Training Via Video - 2/03



# Software Order Overview

- ✦ Chap 1- Introduction
- ✦ Chap 2- Software Review Process
- ✦ Chap 3- Determining LOFI in SW Projects
- ✦ Chap 4- SW Conformity
- ✦ Chap 5- Approval of FLS
- ✦ Chap 6- PMA of FLS
- ✦ Chap 7- Approval of UMS
- ✦ Chap 8- Previously Developed Software
- ✦ Chap 9- Qualification of SW Tools
- ✦ Chap 10- SW Changes in Legacy Systems
- ✦ Chap 11- SW Change Impact Analysis
- ✦ Chap 12- Reused SW Life Cycle Data
- ✦ Appendix 1- LOFI Worksheet
- ✦ Appendix 2- LOFI Example 1
- ✦ Appendix 3- LOFI Example 2
- ✦ Appendix 4- LOFI Example 3
- ✦ Appendix 5- Feedback Form



# Chapter 2 Highlights

- ✦ **Software Review Process**
- ✦ **Based on Notice 8110.81/.90**
- ✦ **No major changes from the Notices**





# Chapter 3 Highlights

- ✦ **Level of FAA Involvement in Software Projects**
- ✦ **Based on Notice 8110.87**
- ✦ **No major changes from the Notice**
- ✦ **References Appendices 1-4**





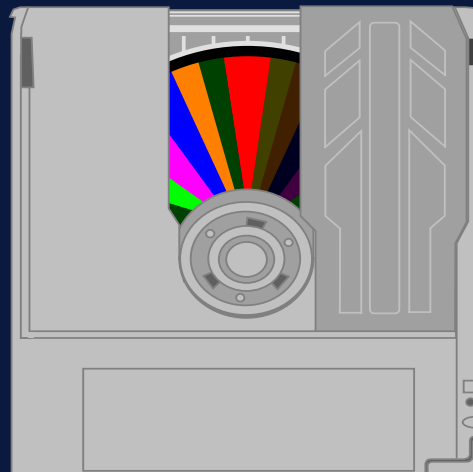
# Chapter 4 Highlights

- ✦ **Software Conformity**
- ✦ **Based on Notice 8110.86**
- ✦ **Significantly Changed Software Conformity Policy for Clarity**
  - **Software Part Conformity Inspection (was “design assurance software conformity inspection”)**
  - **Clarified ASI and ASE roles**



# Chapter 5 Highlights

- ✦ **Field-Loadable Software (FLS)**
- ✦ **Based on Notice 8110.77/.95**
- ✦ **Added some information regarding FLS on TSO's articles (i.e., need to meet 21.607d)**





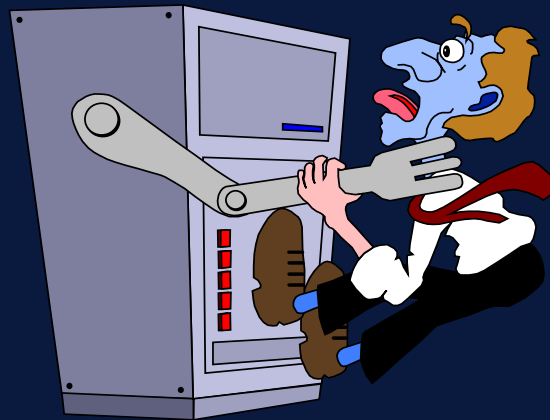
# Chapter 6 Highlights

- ✦ **Parts Manufacturer Approval (PMA) of FLS**
- ✦ **Based on Notice 8110.79/.93**
- ✦ **Changed criteria for major/minor change determination for PMA via licensing agreement**
  - **Uses change impact analysis process rather than software levels**
- ✦ **Added information on type design data for PMA'd software**



# Chapter 7 Highlights

- ✦ **User-Modifiable Software (UMS)**
- ✦ **Based on Notice 8110.84/.94**
- ✦ **Slightly modified the section on displayed data for clarification purposes**





# Chapter 8 Highlights

- ✦ **Level D Previously Developed Software**
- ✦ **Based on Notice 8110.82/.92**
- ✦ **Clarified that the policy is for COTS software, where design data is not accessible (i.e., not intended to be applied to all Level D software)**
- ✦ **Significant editing**



# Chapter 9 Highlights

- ✦ **Software Tool Qualification**
- ✦ **Based on Notice 8110.83/.91**
- ✦ **Added information to address use of service history in tool qualification (reference DO-248B discussion paper)**





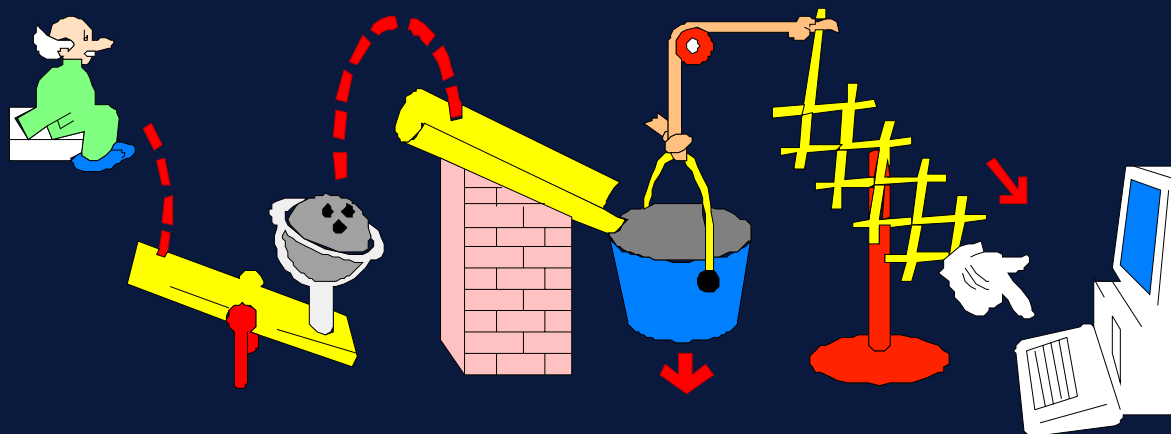
# Chapter 10 Highlights

- ✦ **Changes to Legacy Software**
- ✦ **Based on Notice 8110.78/.89**
- ✦ **Significant edits**
- ✦ **Changed “small, simple change” to “minor change” and added reference to change impact analysis process**



# Chapter 11 Highlights

- ✦ **Software Change Impact Analysis**
- ✦ **Based on Notice 8110.85**
- ✦ **No significant changes from the Notice**







# Chapter 12 Highlights

- ✦ **Reuse of Software Life Cycle Data**
- ✦ **Based on Notice 8110.97**
- ✦ **Several editorial changes**
- ✦ **No technical changes**





# Summary



# Summary

- ✦ **Software Order to incorporate the 11 existing software Notices**
  - **Draft has been coordinated within FAA**
  - **Draft incorporates some significant changes**
- ✦ **Request for public comments via FR coming SOON**
- ✦ **All comments are welcome:**
  - **Send to: [john.lewis@faa.gov](mailto:john.lewis@faa.gov)**
- ✦ **Thanks to all of you who have provided input!**